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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,587	02/10/2004	Hiroyuki Minemura	HIRA.0142	1107
7590 Stanley P. Fisher Reed Smith LLP Suite 1400 3110 Fairview Park Drive Falls Church, VA 22042-4503			EXAMINER DANIELSEN, NATHAN ANDREW	
			ART UNIT 2627	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/04/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/774,587	Applicant(s) MINEMURA ET AL.	
	Examiner Nathan Danielsen	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 2-5 and 7-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>02/09/04 & 01/16/06</u> | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1-11 are pending. Claim 11 was added in applicant's restriction election filed 10 January 2007. Claims 2-5 and 7-10 are withdrawn in response to this election.

Election/Restrictions

2. Applicant's election without traverse of claims 1-6 and 11 in the reply filed on 10 January 2007 is acknowledged.

3. Claims 7-10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and claims 2-5 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10 January 2007. Claims 2-5 are withdrawn because claims 2 and 5 correspond to the species of figure 11 in that both make mention of time-reversed bit streams.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

5. The drawings are objected to because:

- a. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated; and
- b. "RESISTOR" in element 21 in figure 15A should be changed to "REGISTER" in order to be consistent with applicant's specification.

See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the

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drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:
 - a. In claim 6: "the target signal levels used for the verification are a fixed target value plus a compensation value".

Claim Objections

2. Claim 6 is objected to because the limitation "the bit streams (arrays)" is confusing since bit streams are typically not the same as arrays. Claims 1 and 6 are objected to because "target levels" and "target signal levels" appear to be referring to the same thing. The examiner suggests changing "target levels" to --target signal levels-- in claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
9. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
10. Claim 6 recites the limitation "the bit streams (arrays)". There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

and // are
12. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al (US Patent 6,289,059; hereinafter Yamaguchi).

Regarding claim 1, Yamaguchi discloses an information reproducing method using a PRML (Partial Response Maximum Likelihood) method which compares readout signal levels at consecutive N times with target levels and selects the most likely state transition to convert the readout signal into binary data (col. 1, lines 6-10), wherein:

different target signal levels are used at least for verification and read retry (abstract and col. 37, lines 8-67; where verification is included in the disclosed "reproducing operation");

Regarding claim 11, Yamaguchi discloses where:

either an asymmetry compensation target value table or a compensation target value table is selected (suggested by col. 27, lines 15-52, where δ is a correction coefficient used to reduce the effects of asymmetry when calculating/adapting amplitude reference values for compensating reproduced signals, and abstract, where the adapted amplitude reference values constitute one table and the predetermined amplitude reference values constitute the other table), and
the signal is compensated according to the selected table (col. 27, lines 15-52).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art

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are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi, in view of Ide ("Adaptive Partial-Response Maximum-Likelihood Detection in Optical Recording Media", Technical Digest of ISOM 2002, pp. 269-271).

Regarding claim 6, Yamaguchi discloses where the target signal levels used for verification are a fixed target value plus a compensation value (col. 27, lines 15-52; where, with reference to formula 52, " $\delta \cdot z[k]$ " is the fixed target and " $(1-\delta) \cdot Acpqr$ (old)" is the compensation value). However, Yamaguchi fails to disclose where the same compensation value is used for plural bit streams (arrays) for which target partial response levels are equal.

In the same field of endeavor, Ide discloses where the same compensation value is used for plural bit streams (arrays) for which target partial response levels are equal (fig. 2 in combination with page 270, "Experiments").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the same compensation values for plural bit streams (arrays) for which target partial response levels are equal, as taught by Ide, for the purpose of asymmetry and level fluctuation compensation (page 269, "Abstract").

Closing Remarks/Comments

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Danielsen whose telephone number is (571) 272-4248. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:00 PM Eastern Time.

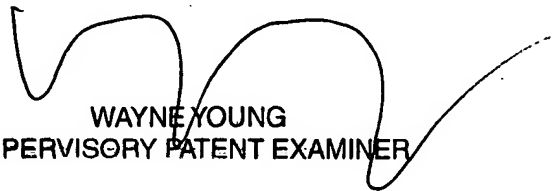
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathan Daniels
03/22/2007

ND



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER